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IC - C12N11/02

MC - A12-W11L B04-C03B B04-F10B1 B11-A01 D04-A01

M1 - [01] H401 H481 H714 H721 H722 J011 J014 J271 J273 L463 L499 M210 M212
M213 M232 M262 M281 M312 M313 M314 M315 M321 M323 M331 M332 M333 M342
M382 M383 M391 M393 M423 M430 M510 M520 M530 M540 M782 M903 N131 Q120
Q232 Q233 R043 V500 V540 V743

PA - (KYOT-N) KYOTO KARITAS KK

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PR - JP19920213461 19920717

XA - C1994-035949

XIC - C12N-011/02

AB - J06030773 Microorganism-immobilising includes discrete adhered portions contg. microorganisms and an adhered sepg. material consisting of a cured prod. of a UV-curable resin compsn. which isolates the discrete adhered parts. Both these materials are provided in a porous sheet and a hydrophilic transparent sheet layer is provided on at least one surface of the porous sheet provided by these adhered parts.

- The above prod. is prep'd. by constructing the above constitution and irradiating the whole structure with UV light.
- USE/ADVANTAGE - The body has satisfactory mechanical strength required for the design of a bioreactor. It can use several microbes independently with no admixture.

In an example, a suspension of *Bacillus subtilis* was added to 2% Na alginate soln. to prepare a microbial body compsn. 40 pts. 2-hydroxyethyl methacrylate, 60 pts. urethane acrylate oligomer and 1 pt. of a photopolymerisation initiator were mixed together uniformly while heated to prepare UV-curable resin compsn. It was spread on a polyester film and another polyester film was piled on it. The piled sheet was irradiated by UV ray to give a photo-cured sheet 40 microns thick. A cotton plain-weave fabric of 80 count was piled as the porous sheet on the hydrophilic sheet consisting of the photocured sheet and then the above microbe body compsn. was printed on the porous sheet by using a printing screen to form intermittently adhered parts (2a) consisting of dewdrop patterns of 10mm dia. at 10mm intervals. Then, the same UV-curable resin compsn. as above was printed on the sheet by using a printing screen to a check pattern to form the sepg. adhered part. A hydrophilic transparent sheet layer (3) consisting of the same photocured sheet as above was piled on it and the total sheet was compressed and UV light was irradiated from both sides of the sheet by a high pressure mercury lamp to cure.(Dwg.0/2)

IW - MICROORGANISM IMMOBILISE BODY COMPRIZE DISCRETE ADHERE MICROORGANISM

OPD - 1992-07-17

ORD - 1994-02-08

PAW - (KYOT-N) KYOTO KARITAS KK

TI - Microorganism-immobilising body for use in bioreactor - comprising discrete adhered microorganism portions with isolation material comprising UV-curable resin between them

- A01 - [001] P1592-R F77 ; H0237-R ; M9999 M2017 ; M9999 M2153-R ; M9999 M2813 ; L9999 L2391 ; L9999 L2073 ; M9999 M2073 ; S9999 S1581 ;
- [002] Q9999 Q8082 ; Q9999 Q7750 ; ND01 ; Q9999 Q7818-R ; K9676-R ; K9574 K9483 ; N9999 N7192 N7023 ; N9999 N7147 N7034 N7023 ; N9999 N7090 N7034 N7023 ;
- [003] B9999 B4988-R B4977 B4740 ; K9869 K9847 K9790 ; N9999 N7078 N7034 N7023 ; B9999 B5243-R B4740 ; K9712 K9676 ; N9999 N6439 ; N9999 N6177-R ; N9999 N5798 N5787 N5765 ; B9999 B3407 B3383 B3372 ;
- [004] R01463 G0408 G0384 G0339 G0260 G0022 D01 D11 D10 D12 D51 D53 D58 D63 D86 F27 F26 F41 ; A999 A179 A157 ; A999 A771 ;
- A02 - [001] R06725 R07226 G3623 P0599 D01 D23 D22 D31 D42 D50 D61 D86 F24 F28 F26 F34 F36 F35 Na 1A H0293 ; S9999 S1605-R ;
- [002] Q9999 Q8082 ; Q9999 Q7750 ; ND01 ; Q9999 Q7818-R ; K9676-R ; K9574 K9483 ; N9999 N7192 N7023 ; N9999 N7147 N7034 N7023 ; N9999 N7090 N7034 N7023 ;
- A03 - [001] R24078 R01852 G3634 G3623 D01 D03 D11 D10 D23 D22 D31 D42 D50 D86 F24 F29 F26 F34 H0293 P0599 ; S9999 S1194 S1161 S1070 ;
- [002] Q9999 Q8082 ; Q9999 Q7750 ; ND01 ; Q9999 Q7818-R ; K9676-R ; K9574 K9483 ; N9999 N7192 N7023 ; N9999 N7147 N7034 N7023 ; N9999 N7090 N7034 N7023 ;
- [003] K9518 K9483 ; N9999 N5798 N5787 N5765 ;
- A04 - [001] P0839-R F41 ; S9999 S1285-R ; S9999 S1581 ;
- [002] Q9999 Q8082 ; Q9999 Q7750 ; ND01 ; Q9999 Q7818-R ; K9676-R ; K9574 K9483 ; N9999 N7192 N7023 ; N9999 N7147 N7034 N7023 ; N9999 N7090 N7034 N7023 ;
- [003] B9999 B5447 B5414 B5403 B5276 ;